

#### ABSTRACT

[0072] An apparatus for monitoring the integrity of a wire is provided, which includes a TDR instrument for generating a pulse waveform for transmission through the wire. The apparatus also includes a function generator for generating an electrical or non-electrical forcing waveform for transmission through the wire. The pulse waveform is transmitted through the wire in combination with the forcing waveform and a detector measures a change in dissipation factor values along the wire.